

CABINET-REAR VIEW

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

Disconnect antenna leads. Remove eight screws holding cabinet back and remove back.

NOTE: Most components can be serviced without chassis removal.

Remove all knobs and lay set face down on a soft protective surface. Disconnect CRT socket, IIV anode lead, speaker wires, and ground wires.

Loosen and remove deflection yoke from CRT neck. Remove four screws holding tuner assembly and two screws holding chassis. Lift chassis and tuner assembly from cabinet front.

CRT REMOVAL

Follow "Chassis Removal" procedure. Loosen bolt holding CRT retaining wire. Remove eight screws holding retaining wire brackets. Remove retaining wire and brackets. Lift CRT from cabinet front. Do not lift CRT by the neck.

SERVICING IN THE FIELD

CRT IMPLSION PROTECTION AND CLEANING

Implosion protection is an integral part of the picture tube, cleaning accomplished without CRT removal.

FUSE DEVICES

A .5-amp fuse is used for low-voltage power-supply protection. (See Placement Chart.)

A 4-amp fuse wire is used for AC line protection. (See photo, Cabinet - Rear View.)

VHF TUNER

The fine tuning mechanically engages oscillator slug for adjustment (one slug for each channel).

UHF TUNER

The UHF Tuner employs a detent mechanism for channel selection. Fine tuning is adjusted by rotating the fine tuning knob.

HORIZONTAL OSCILLATOR

Adjustment of the horizontal hold is accomplished by the proper setting of the horiz hold coil. (See photo, Cabinet - Rear View.)

AGC

The AGC may be varied by an RF AGC Control.

CENTERING

Centering is accomplished by proper adjustment of two magnetic rings located on the yoke rear cover.

SET 1644 FOLDER 1

GENERAL ELECTRIC
CHASSIS 19XA-2

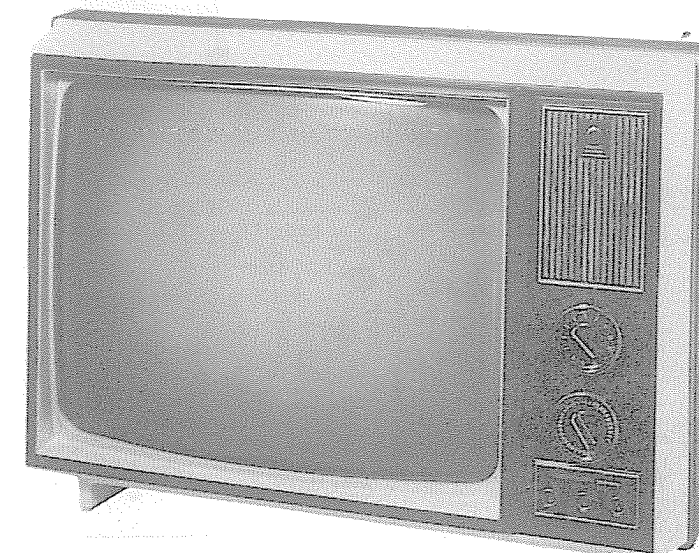
PHOTOFACT® Folder

with CIRCUITRACE

For Supplier Address See PHOTOFACT Index

MODEL CHASSIS

| | |
|----------|--------|
| XA4215VY | 19XA-2 |
| XA4218SL | 19XA-2 |
| XA4225WD | 19XA-2 |
| XA4319RW | 19XA-2 |
| XA4324WD | 19XA-2 |
| XA4327WD | 19XA-2 |



MODEL XA4215VY

SAFETY PRECAUTIONS

See Page 13.

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HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206



The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. 7PC1816 10 9 8 7 6 5

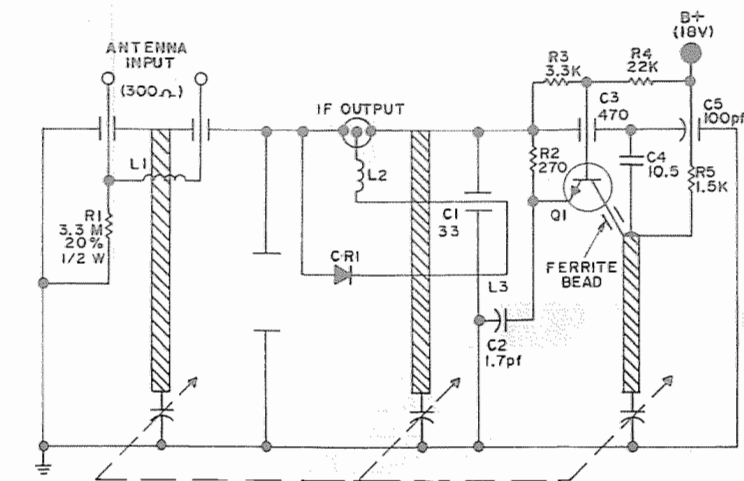
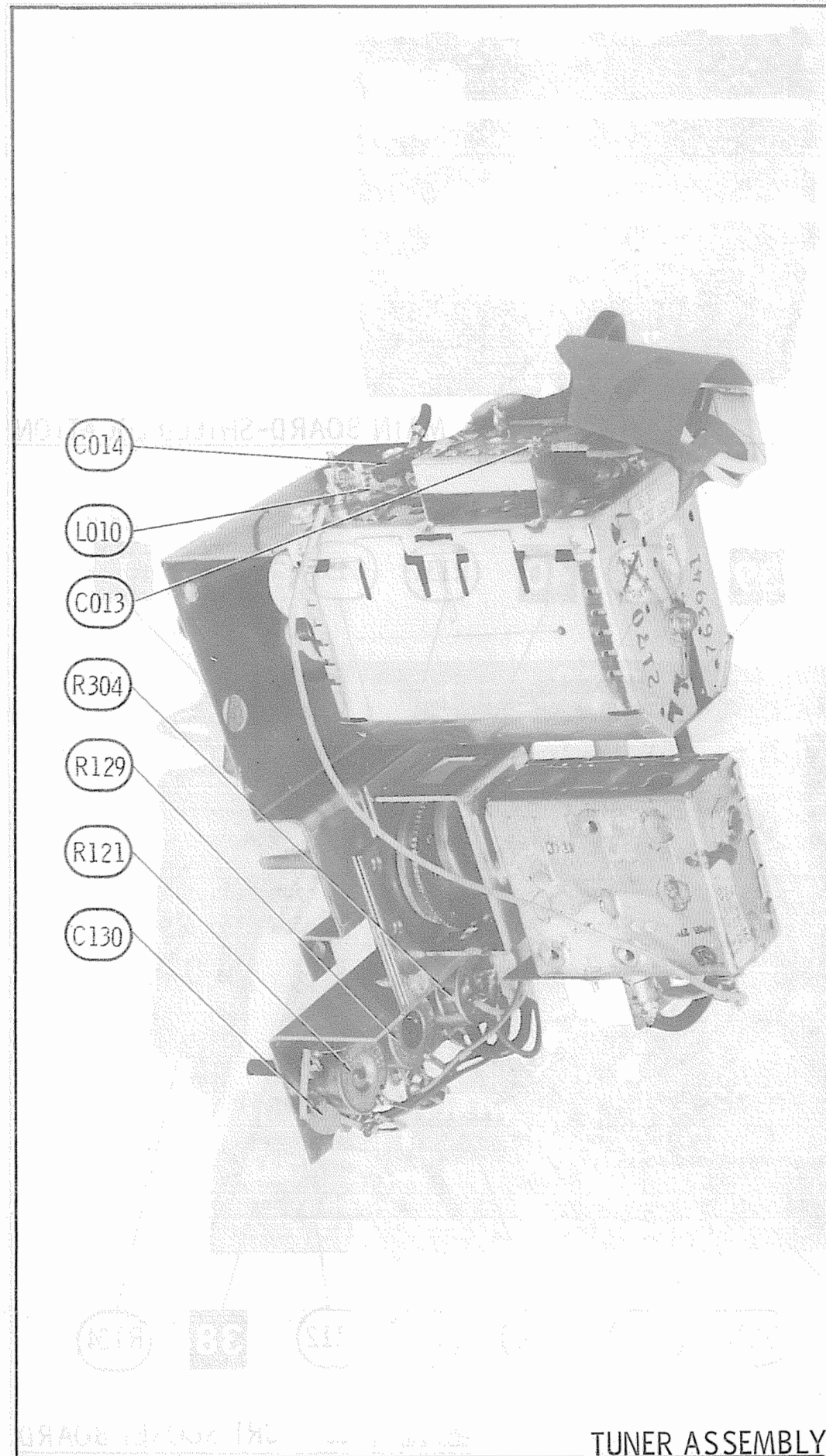
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DATE 4-77

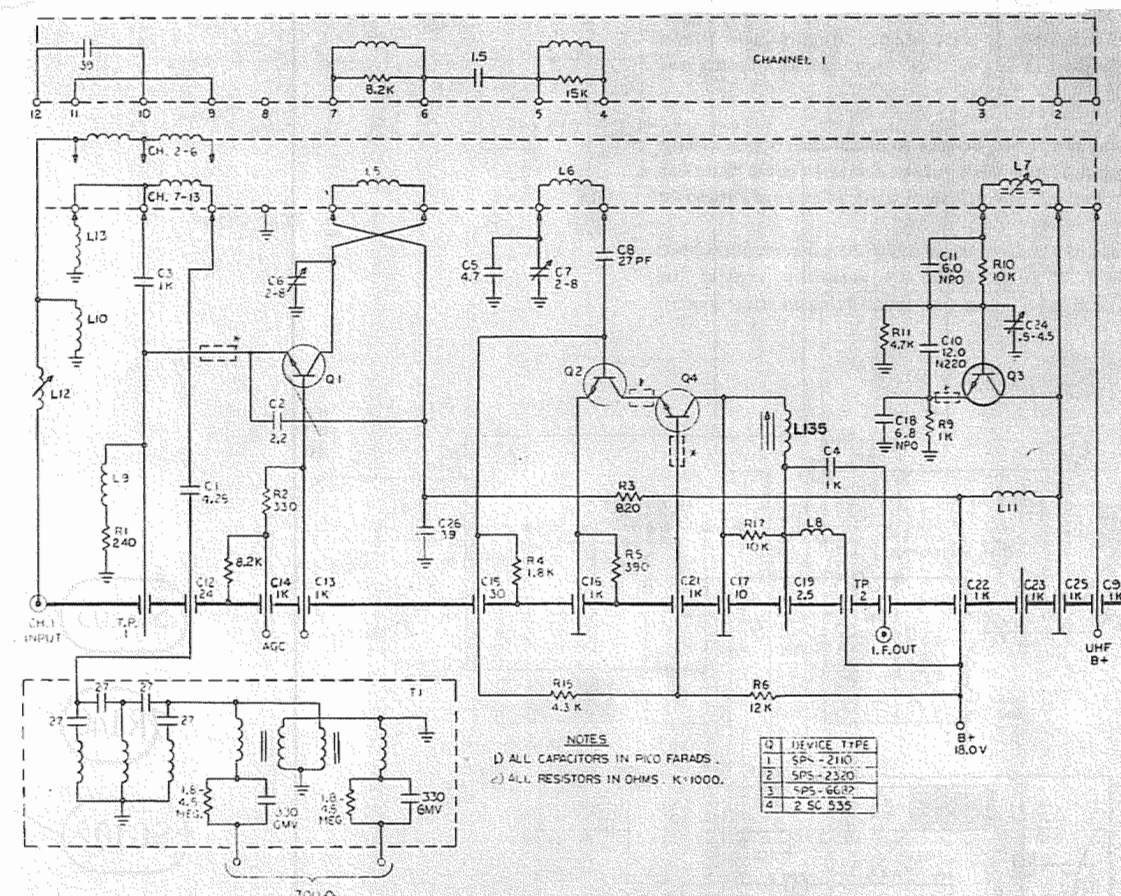
SET 1644 FOLDER 1

GENERAL ELECTRIC
CHASSIS 19XA-2

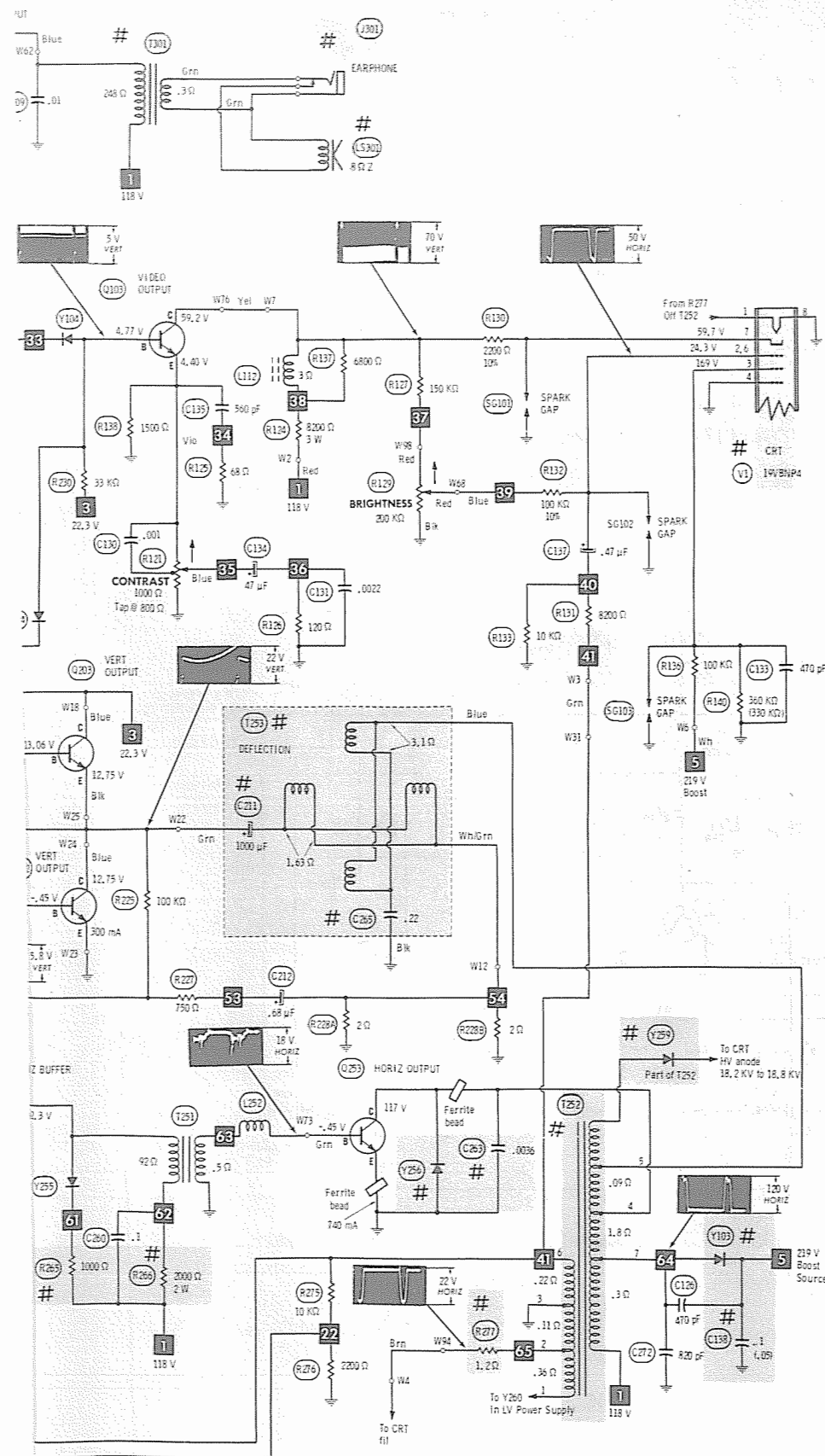
SET 1644 FOLDER 1



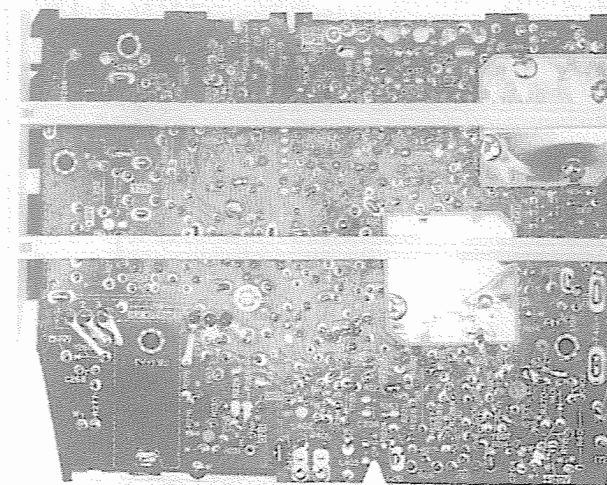
SCHEMATIC DIAGRAM



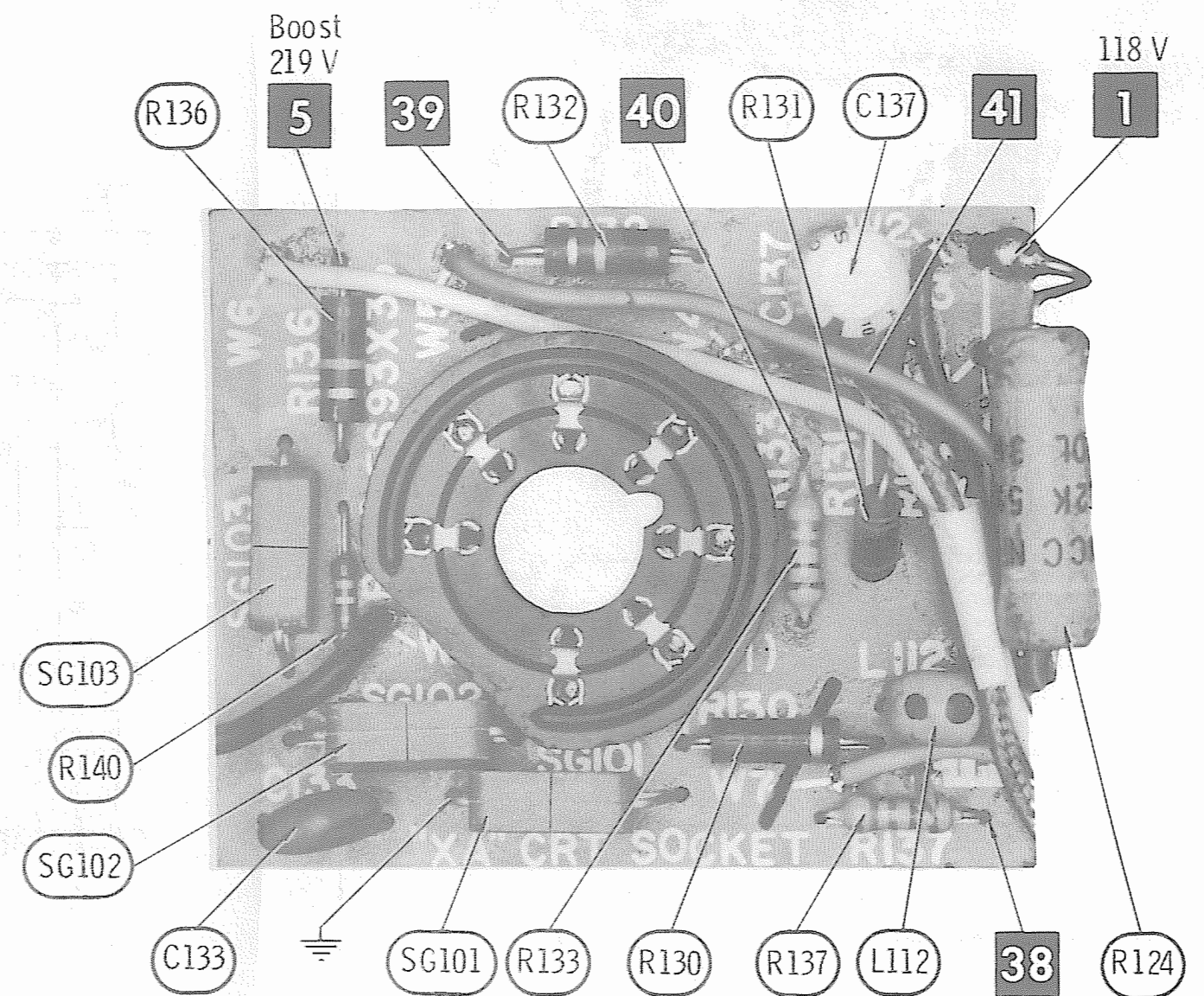
Courtesy of the Manufacturer



GENERAL ELECTRIC
CHASSIS 19XA-2



MAIN BOARD-SHIELD LOCATION



RESISTANCE MEASUREMENTS

| MEASUREMENTS BELOW TAKEN WITH METER HAVING .08V MAX BETWEEN PROBE TIPS | | | | | | | | | | | | | | |
|--|-------|---------|---------|-------|-------|---------|---------|---------|-------|--------|---------|---------|---------|--------|
| ITEM | PIN 1 | PIN 2 | PIN 3 | PIN 4 | PIN 5 | PIN 6 | PIN 7 | PIN 8 | PIN 9 | PIN 10 | PIN 11 | PIN 12 | PIN 13 | PIN 14 |
| V1 | FIL | 220K | 330K | 0 | 11C | 220K | 30K (1) | FIL | | | | | | |
| IC101 | 0000 | 6000 | 0 | 0 | 2600 | 5200 | 3700 | 3700 | 510K | 2700 | 3200 | 8000 | 4000 | 11K |
| IC301 | 11K | 11K | 0 | 0 | 3000 | 0 | 10K | 6500 | 5500 | 5500 | 11K | 11K | 8500 | 56K |
| ITEM | E | B | C | | ITEM | E | B | C | | ITEM | E | B | C | |
| Q101 | 390 | 4000 | 3000 | | Q203 | 11K (2) | 11K (2) | 2800 | | Q212 | 1680 | 11K (2) | 1000 | |
| Q102 | 560 | 7200 | 2800 | | Q204 | 0 | 430 | 11K | | Q213 | 11K (2) | 1000 | 11K (2) | |
| Q103 | 630 | 30K | 20K (1) | | Q205 | 700K | 2800 | 11K (2) | | Q251 | 1000 | 720K | 9000 | |
| Q161 | 550 | 160K | 11K (2) | | Q206 | 10 | 11K (2) | 2800 | | Q252 | 0 | 4700 | 15K(1) | |
| Q162 | 2600 | 11K (2) | 900 | | Q208 | 1000 | 560K | 4000 | | Q253 | 0 | 1 | 13K(1) | |
| Q201 | 10K | 110K | 6200 | | Q209 | 1000 | 11K (2) | 2800 | | Q301 | 100 | 11K | 13K (1) | |
| Q202 | 0 | 11K (2) | 11K (2) | | Q210 | 2800 | 4000 | 1600 | | | | | | |

(1) This reading will vary depending upon the condition of the electrolytic in the circuit.
(2) Reading depends upon polarity of meter connections.

TROUBLESHOOTING CHECK CHART

The following chart lists component failures most likely to produce the indicated symptoms.

SWEEP

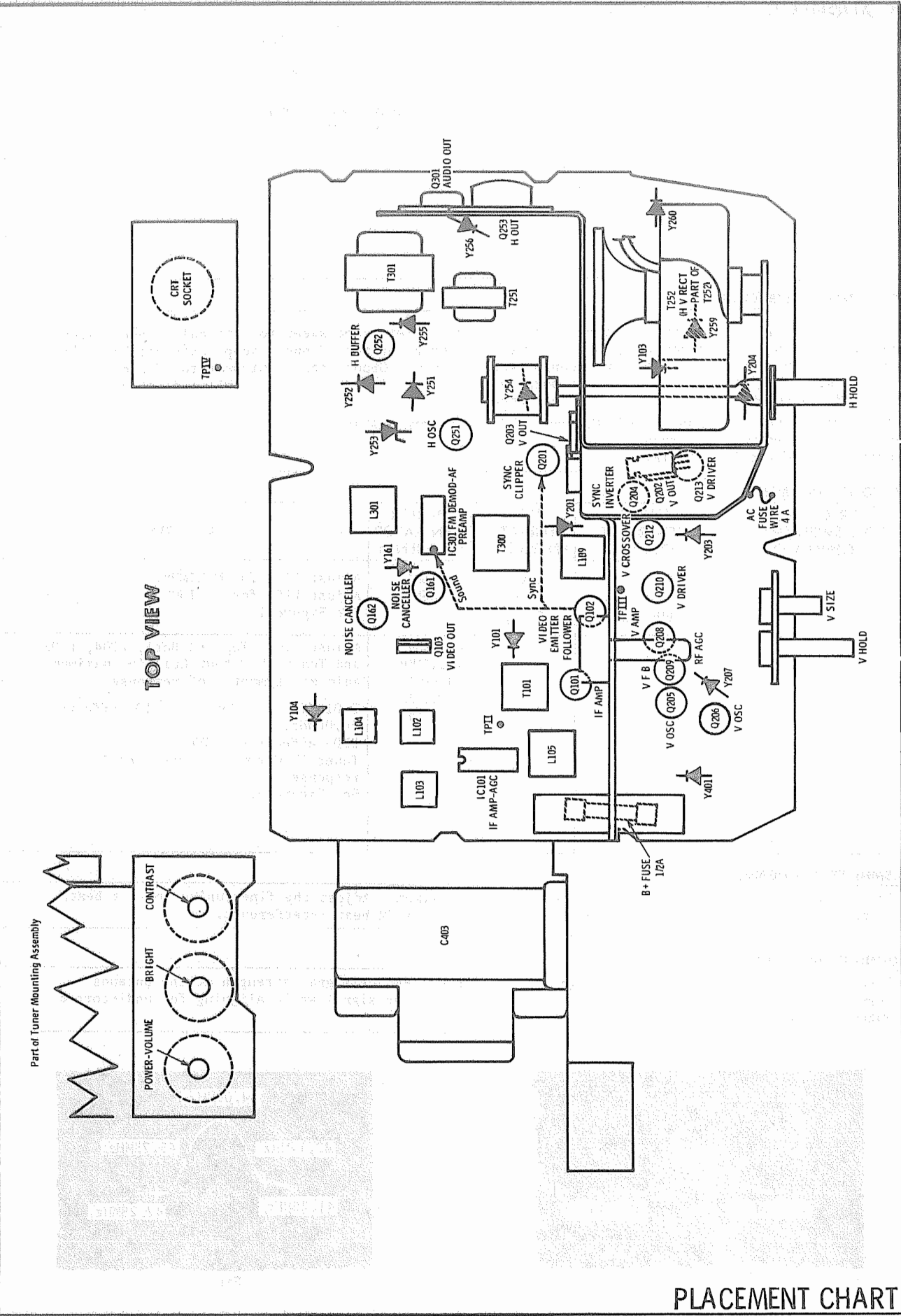
NO RASTER, HAS SOUND: Y259, CRT.
NO RASTER, NO SOUND: Horiz Osc/Buffer/Output, Y254, Y255, Y256, Y260.
NO VERT DEFLECTION: Vert Osc/Amp/F.B./Crossover/Driver/Output, Y203, Y207.
POOR VERT LIN OR FOLDOVER: Vert Osc/Amp/F.B./Crossover/Driver/Output, Y203
POOR HORIZ LIN OR FOLDOVER: Horiz Buffer/Output, Y255.
NARROW PICTURE: Horiz Buffer/Output, Y254, Y255, Y256
VERT OFF FREQ: Sync Inverter, Vert Osc, Y207
HORIZ OFF FREQ: Horiz Osc, Y251, Y252.

SYNC

NO VERT SYNC: Sync Inverter, Vert Osc.
NO HORIZ SYNC: Horiz Osc, Y251, Y252.
NO VERT/HORIZ SYNC: Sync Clipper, Noise Cancellers, Y201.

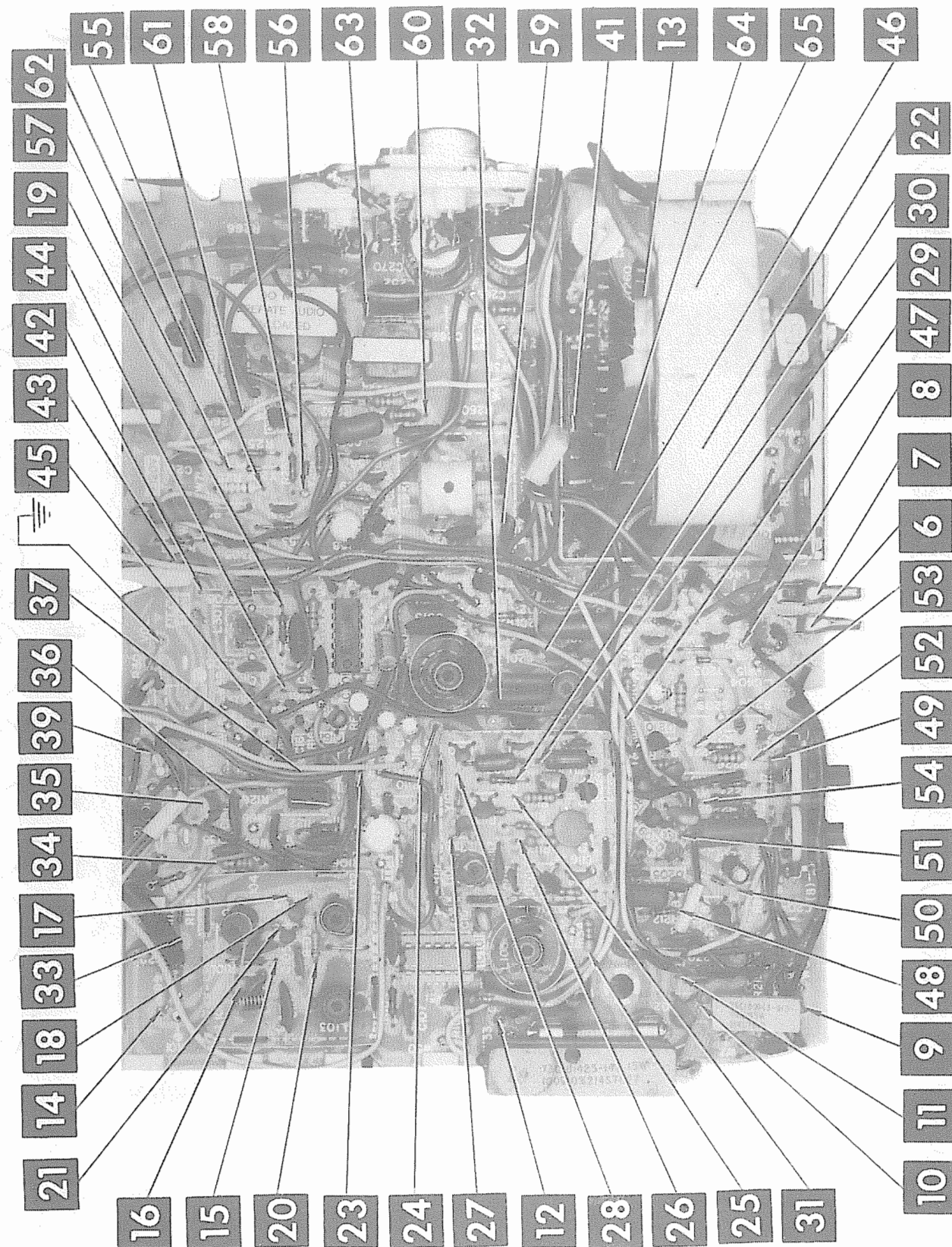
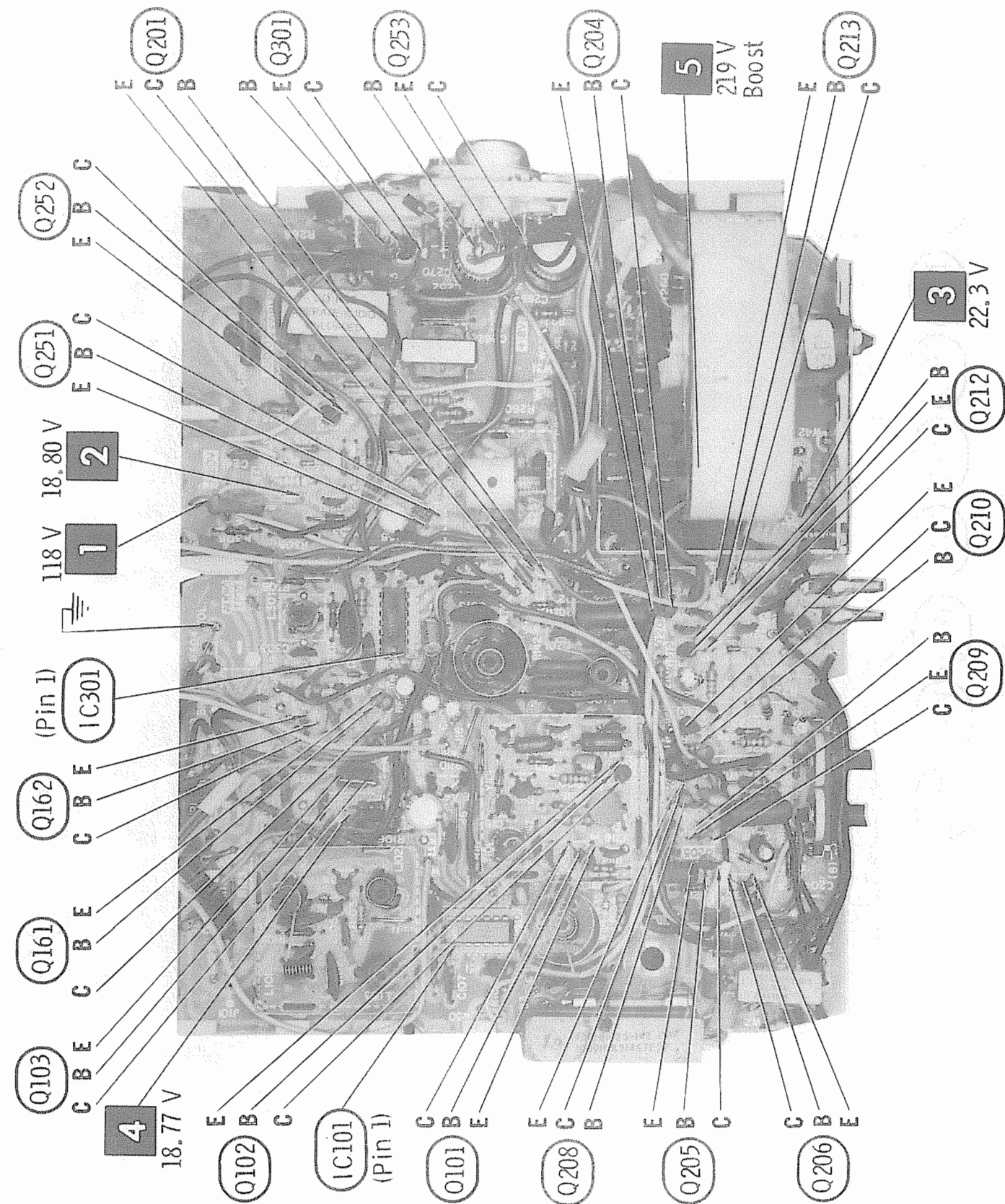
PICTURE or SOUND

NO PIC, NO SOUND, NO RASTER: Fuses, Y401, Y253.
NO PIC, NO SOUND, HAS RASTER: Tuner, IF Amp-AGC, IF Amp, Video Emitter Follower, Y101.
NO PIC, NO SOUND, HAS SNOW: Tuner, IF-Amp-AGC.
NO PIC, HAS SOUND, NO RASTER: Video Output, Y104, Y204, CRT.
NO PIC, HAS SOUND, HAS RASTER: Video Emitter Follower/Output, Y104.
HAS PIC, NO SOUND: FM Demodulator, AF Preamp, Audio Output.
OVERLOADED PICTURE: IF Amp-AGC, Y101.



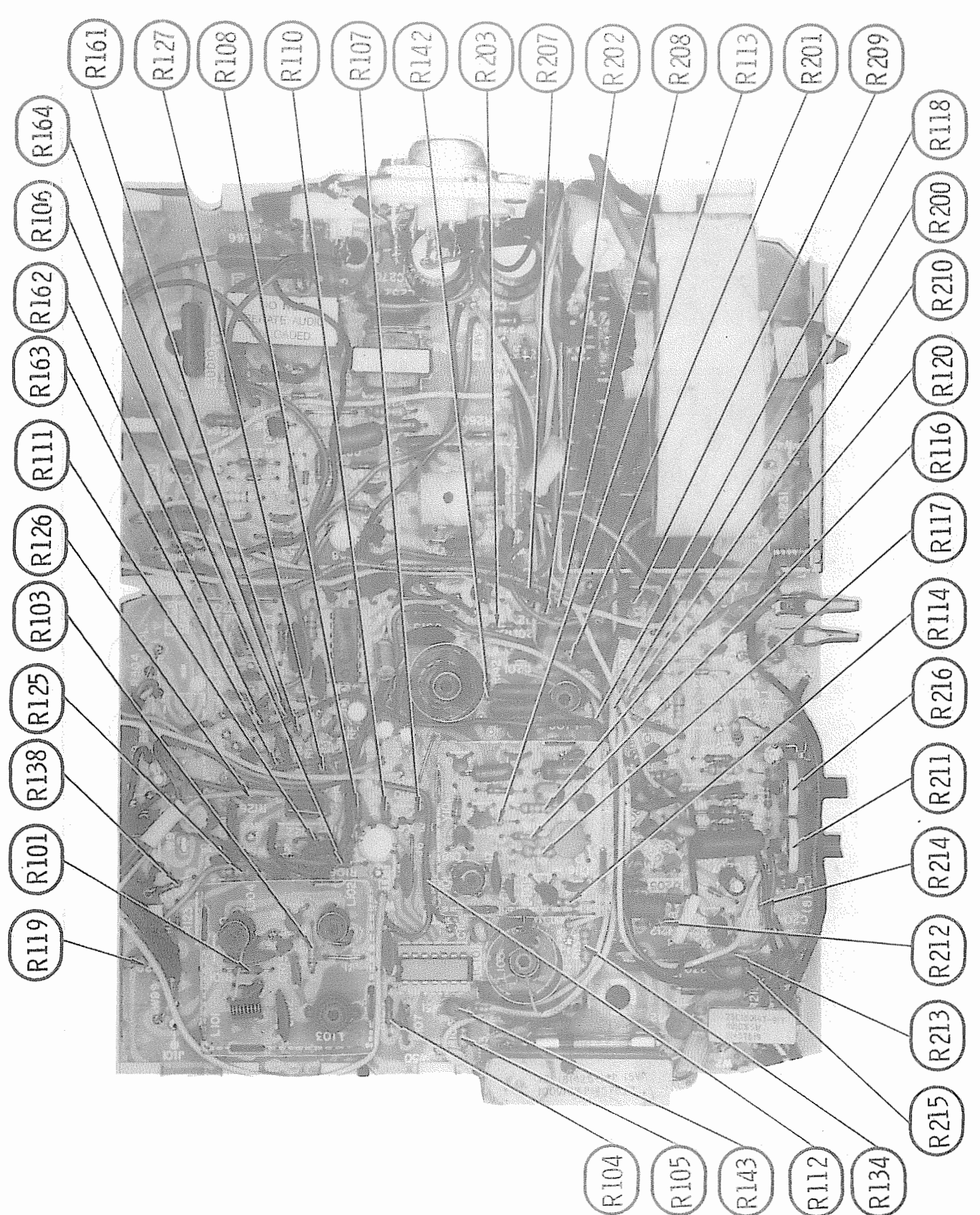
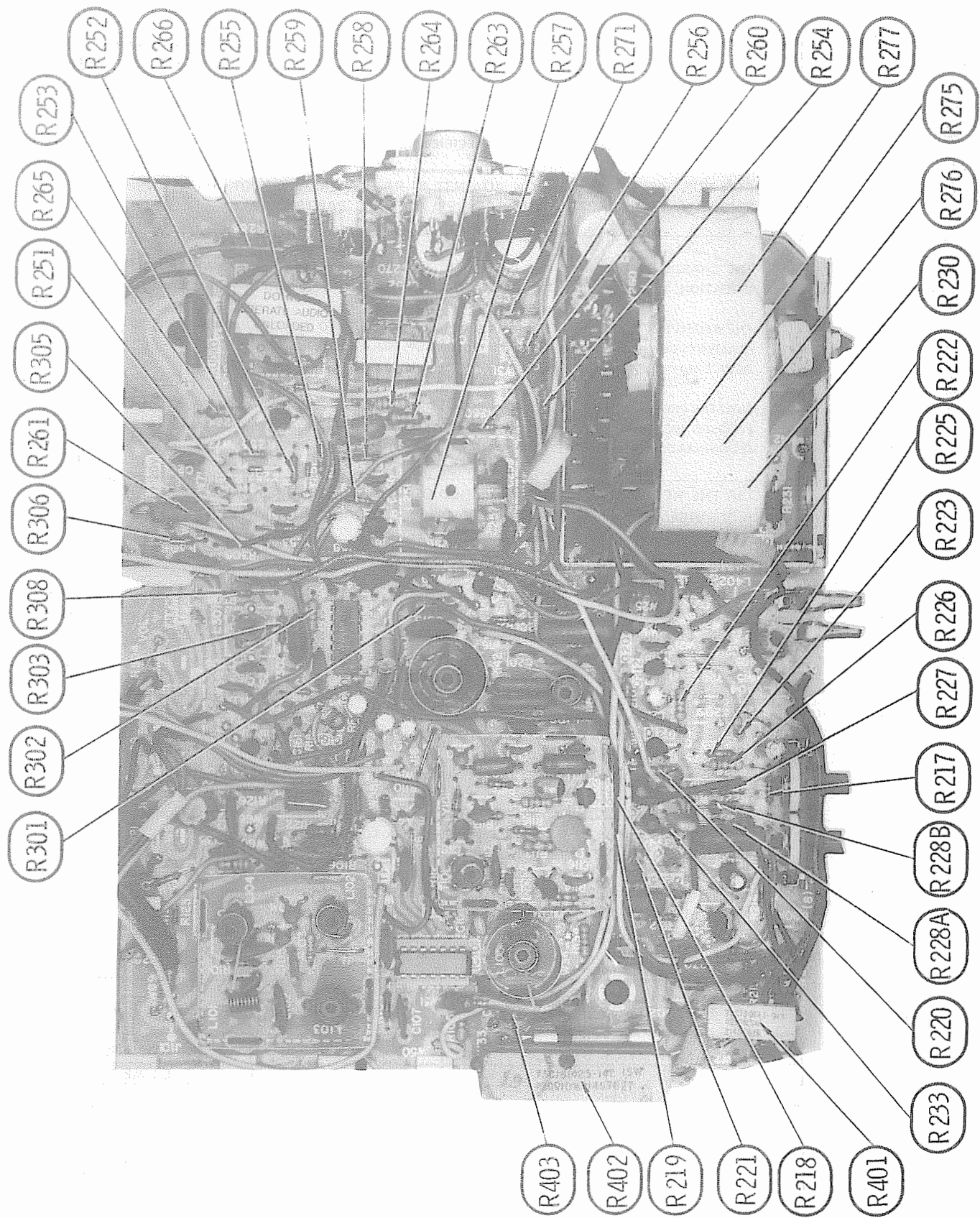
GENERAL ELECTRIC
CHASSIS 19XA-2

FOLDER 1



7414222-10000
2-4-301 2/24/83

MAIN BOARD



MAIN BOARD

GENERAL ELECTRIC
CHASSIS 19XA-2

FOLDER 1

PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

TRANSFORMER (Audio Output)

| ITEM No. | IMPEDANCE | | REPLACEMENT DATA | | | NOTES |
|----------|-----------|------|------------------------------|---------------------|----------------|---|
| | PRI. | SEC. | MFGR. PART No. | THORDARSON PART No. | TRIAD PART No. | |
| T301 | 6300 | 8 | ES64X13 # 73B140700-2 (1) | | | # For SAFETY use only equivalent replacement part. (1) Number on unit. |

SPEAKER

| ITEM No. | TYPE | REPLACEMENT DATA | | NOTES |
|----------|--------------|------------------|---------------|--|
| | | MFGR. PART No. | QUAM PART No. | |
| LS301 | 4" PM 8 ohms | ES95X5 # | 4A1Z8 | # For SAFETY use only equivalent replacement part. |

FUSE DEVICES

| ITEM No. | DESCRIPTION | REPLACEMENT DATA | | | | | | | |
|--------------|--|-----------------------|--------|---------------|-----------|---------------------|--------|------------------|--|
| | | PART No. | | BUSS PART No. | | LITTELFUSE PART No. | | WORKMAN PART No. | |
| | | DEVICE | HOLDER | DEVICE | HOLDER | DEVICE | HOLDER | DEVICE | |
| F401 W401 | 1/2A @ 250V Quick-acting 4A Fuse Wire | EP10X3 # ES10X20 # | EP3X7 | AGC 1/2 | 1A1119-04 | 312,500 | 101002 | F61/2-2 | |

For SAFETY use only equivalent replacement part.

MISCELLANEOUS

| ITEM No. | PART NAME | PART No. | NOTES |
|---------------------------------|--|---------------------------------|-------------------------------------|
| J301 S6101 S6102 S6103 | Earphone Jack Spark Gap Spark Gap Spark Gap | # ES41X7 ES41X7 ES41X7 | |
| | A/C Power Cord | EP66X1 # | |
| | Antenna, UHF | EP83X1 (1) | Polarized |
| | Antenna, VHF | ES03X12 | RUSSELL Replacement LHM-2H |
| | Printed Circuit Board | ES93X35 | RUSSELL Assembly Replacement POR-7H |
| | Printed Circuit Board | ES93X33 | Main |
| | Socket | ES34X21 | CRT Socket Assembly |
| | UHF Tuner | ES85X24 # | CRT |
| | VHF Tuner | ES06X24 # | |

For SAFETY use only equivalent replacement part.
(1) Used in Models XA4319RW, XA4324WD, XA4327WD only.

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

| ITEM | PART No. | PART No. | PART No. | PART No. | PART No. | PART No. |
|---|----------------|----------------|----------------|----------------|----------------|----------------|
| | MODEL XA4215VY | MODEL XA4210SL | MODEL XA4225WD | MODEL XA4319RW | MODEL XA4324WD | MODEL XA4327WD |
| Cabinet Front | ES99X271 | ES99X270 | ES99X272 | ES99X203 | ES99X274 | ES99X274 |
| Cabinet Back | ES98X140 | ES98X145 | ES98X145 | ES98X148 | ES98X141 | ES98X141 |
| Knob, On-Off/Volume/Contrast/Brightness | ES43X325 | | | ES43X189 | ES43X325 | ES43X325 |
| Knob, VHF Selector | ES43X298 | ES43X298 | ES43X298 | ES43X331 | ES43X331 | ES43X298 |
| Knob, VHF Fine Tune | EP43X234 | ES43X234 | ES43X234 | EP43X234 | EP43X234 | EP43X234 |
| Knob, UHF Selector | ES43X299 | ES43X299 | ES43X299 | ES43X299 | ES43X299 | ES43X299 |
| Knob, UHF Indicator | ES43X295 | ES43X295 | ES43X295 | ES43X295 | ES43X295 | ES43X295 |
| Knob, UHF Fine Tune | | | | ES43X315 | ES43X315 | ES43X315 |
| Knob Pack, UHF | | | | ES43X290 | ES43X290 | ES43X290 |
| Fine Tune/Selector Handle | ES43X290 | ES43X290 | ES43X290 | ES78X30 | ES78X30 | ES78X30 |

WIRING DATA

| | |
|---|--|
| High Voltage Lead | Use BELDEN No. 8068 (25 KV) |
| Shielded Hook-up Wire | Use BELDEN No. 8401 or 8421 (Single-Conductor) 8208 (Two-Conductor) |
| General-use Unshielded Hook-up Wire | Use BELDEN No. 8528 (Solid) Available in 13 Colors 8522 (Stranded) Available in 13 Colors |
| 300-Ohm Tuner Input Lead | Use BELDEN No. 8225 |
| 300-Ohm Antenna Lead-in | Use BELDEN No. 8230 or 8275 |
| Antenna Rotor Cable | Use BELDEN No. 8464 (Flat) or 8484 (Round) 4-Conductor 8485 (Round) 5-Conductor 8488 (Round) 8-Conductor |

PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements.
Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

PICTURE TUBE

| ITEM No. | REPLACEMENT DATA | | | | NOTES |
|----------|------------------|---------------------------|--------------|-------------------|-------|
| | MFGR. PART No. | GENERAL ELECTRIC PART No. | RCA PART No. | SYLVANIA PART No. | |
| V1 | 19VB1P4 # | 19VB1P4 | | 19VB1P4 | |

For SAFETY use only equivalent replacement part.

SEMICONDUCTORS (Select replacement transistor for best results)

| ITEM No. | TYPE No. | MFGR. PART No. | REPLACEMENT DATA | | | | | | | |
|----------|----------|----------------|---------------------------|---------------------|------------------|-------------------|-------------------|--------------|------------------|-------------------|
| | | | GENERAL ELECTRIC PART No. | IR WORKMAN PART No. | MALLORY PART No. | MOTOROLA PART No. | RAYTHEON PART No. | RCA PART No. | SPRAGUE PART No. | SYLVANIA PART No. |
| IC101 | | EP84X10 | | | PTC746 | HEPC6076P | RE 304-IC | SK3171 | TVCM-42 | ECG749 |
| IC301 | | EP84X2 | GE-1C-2 | IC-507 | PTC726 | HEPC6083P | RE 305-IC | SK3072 | TVCM-11 | ECG712 |
| Q101 | | EP15X54 | GE-61 * | TR-70 * | PTC132 * | HEPS0015 * | RE 28 * | SK3132 * | RT-112 * | ECG6161 * |
| Q102 | | EP15X9 | GE-20 | TR-21 | PTC123 | HEPS0015 * | RE 13 | SK3124 * | RT-172 * | ECG123A |
| Q103 | | EP15X61 | GE-40 | TR-76 | PTC117 | HEPS5025 | RE 23 | SK3044 | RT-114 | ECG154 |
| Q161 | | EP15X6 | GE-20 * | TR-21 * | PTC136 * | HEPS0015 * | RE 13 * | SK3018 * | RT-172 * | ECG233 * |
| Q162 | | ES15X90 | GE-22 | TR-20 | PTC103 | HEPS0019 | RE 26 | SK3114 * | RT-126A | ECG159 |
| Q201 | | ES15X90 | GE-22 | TR-20 | PTC103 | HEPS0019 | RE 26 | SK3114 * | RT-126A | ECG159 |
| Q202 | | ES15X125(8) | GE-32 | | PTC110 | | RE 191 | SK3054 | RT-135 | ECG291 |
| Q203 | | ES15X125(8) | GE-32 | | PTC110 | | RE 191 | SK3054 | RT-135 | ECG291 |
| Q204 | | EP15X5 | GE-18 * | TR-87 * | PTC125 * | HEPS5012 * | RE 17 * | SK3024 * | RT-114 * | ECG128 * |
| Q205 | | ES15X128 | GE-21 | TR-30 | PTC103 | HEPS0031 | RE 26 | SK3114 * | RT-126A | ECG159 |
| Q206 | | EP15X2 | GE-20 * | TR-21 * | PTC136 * | HEPS0015 * | RE 13 * | SK3124 * | RT-172 * | ECG123A * |
| Q208 | | EP15X6 | GE-20 * | TR-21 * | PTC136 * | HEPS0015 * | RE 13 * | SK3018 * | RT-172 * | ECG233 * |
| Q209 | | EP15X1 | GE-20 | TR-21 | PTC141 | HEPS0015 | RE 13 | SK3117 | RT-172 | ECG123A |
| Q210 | | ES15X90 | GE-22 | TR-20 | PTC103 | HEPS0019 | RE 26 | SK3114 * | RT-126A | ECG159 |
| Q212 | | EP15X48 | GE-21 | TR-30 | PTC103 | HEPS0019 | RE 26 | SK3114 * | RT-126A | ECG159 |
| Q213 | | ES15X90 | GE-22 | TR-20 | PTC103 | HEPS0019 | RE 26 | SK3114 * | RT-126A | ECG159 |
| Q251 | | EP15X1 | GE-20 * | TR-21 * | PTC141 * | HEPS0015 * | RE 13 * | SK3117 * | RT-172 * | ECG123A * |
| Q252 | | EP15X19 | GE-18 * | TR-87 * | PTC125 * | HEPS5015 | RE 17 * | SK3044 * | RT-114 * | ECG128 * |
| Q253 | | ES15X126 | GE-36 | TR-67 | PTC129A | HEPS5020 | RE 30 | SK3111 | RT-140 | ECG163 |
| Q301 | | EP15X16 | GE-12 | TR-23 | PTC104 | HEPS5011 | RE 14 | SK3026 | RT-128 | ECG124 |
| Y101 | | EP16X3 | 1N60 | 1N60 | PTC206 | HEPR9135 | RE 47 | SK3088 | RT-263 | ECG109 |
| Y103 | | EP16X10 # | GE-504A | 5A4D | PTC201 | HEPRO053 | RE 49 | SK3016 | RT-214 | ECG116 |
| Y104 | | ES16X27 | GE-300 | D200 | PTC214 | HEPRO602 | RE 52 | SK3100 | RT-218 | ECG177 |
| Y161 | | ES16X27 | GE-300 | D200 | PTC214 | HEPRO602 | RE 52 | SK3100 | RT-218 | ECG177 |
| Y201 | | ES16X27 | GE-300 | D200 | PTC214 | HEPRO602 | RE 52 | SK3100 | RT-218 | ECG177 |
| Y203 | | ES16X27 | GE-300 | D200 | PTC214 | HEPRO602 | RE 52 | SK3100 | RT-218 | ECG177 |
| Y204 | | EP16X10 | | | | | | | | |
| Y207 | | ES16X27 | GE-300 | D200 | PTC214 | HEPRO602 | RE 52 | SK3100 | RT-218 | ECG177 |
| Y251 | | ES16X27 | GE-300(7) | D200MP(6) | PTC214H(6) | HEPRO602(7) | RE 52(7) | SK3100(7) | RT-218(7) | ECG178MP(6) |
| Y252 | | ES16X27 | | | | | | | | |
| Y253 | | ES16X41 | GE2D-20 | | ZB20B | | RE 126 | | RT-247 | ECG5079 |
| Y254 | | ES16X27 | GE-300 | D200 | PTC214 | HEPRO602 | RE 52 | SK3100 | RT-218 | ECG177 |
| Y255 | | EP16X11 | GE-504A | 5A4D | PTC201 | HEPRO053 | RE 49 | SK3016 | RT-214 | ECG116 |
| Y256 | | EP16X11 # | GE-511 | D172 | PTC216 | HEPR3012 | RE 55 | SK3130 | RT-203 | ECG506 |
| Y260 | | EP57X5 # | GE-504A | 5A4D | PTC201 | HEPRO052 | RE 49 | SK3030 | RT-213 | ECG116 |
| Y401 | | EP57X4 # | GE-504A | 5A4D | PTC201 | HEPRO053 | RE 49 | SK3016 | RT-214 | ECG116 |

* Lead configuration may vary from original.
For SAFETY use only equivalent replacement part.
(6) Matched pair.
(7) Two required - select matched pair.
(8) Half of matched pair. (Q202 and Q203)

ELECTROLYTIC CAPACITORS

| ITEM No. | RATING | REPLACEMENT DATA | | | | |
|----------|----------|------------------|---------------------------|------------------|------------------|--------------|
| | | MFGR. PART No. | CORNELL-DUBILIER PART No. | MALLORY PART No. | SPRAGUE PART No. | |
| | | | | | Q-LINE | GENERAL LINE |
| C013 | 10 25V | EP31X5 | WBR10-25 | TC22A | QE1-179 | TVA-1204 |
| C014 | 1 50V | EP31X16 | WBR1-50 | MTA1D50 | QE1-11 | TVA-1300 |
| C109 | .68 16V | ES31X48 | | TOC684H050EL | Q0T1-22 | S050-R689 |
| C110 | 10 50V | EP31X35 | PC10-50 | MTV1OCB50 | QV1-45 | EV-1622 |
| C111 | 47 50V | EP31X45 | PC50-50 | VTT47G63 | QV1-79 | EV-1626 |
| | 22 50V | | WBR25-50 | VTT22C63 | QV1-59 | EV-1624 |
| C134 | 47 50V | EP31X45 | PC50-50 | VTT47G63 | QV1-79 | EV-1626 |
| C137 | .47 100V | ES31X53 | PC1-100 | MTV1CB100 | | TVA-1330 |
| C139 | 10 50V | EP31X35 | PC10-50 | MTV1OCB50 | QV1-45 | EV-1622 |
| C207 | .47 100V | ES31X53 | PC1-100 | MTV1CB100 | | TVA-1330 |
| C210 | 1 50V | ES31X16 | PC1-50 | VTT1B63 | QV1-11 | EV-1615 |
| C211 | 1000 35V | EP31X37 # | WBR1000-35 | | | |
| C212 | .68 16V | ES31X48 | | TOC684H050EL | Q0T1-22 | S050-R689 |
| C213 | 10 50V | EP31X35 | PC10-50 | MTV1OCB50 | QV1-45 | EV-1622 |
| C258 | 22 25V | EP31X44 | PC25-25 | TC26C | QV1-57 | EV-1324 |
| C269 | 470 50V | EP31X59 # | WBR500-50 | VTT470H50 | QV1-159 | EV-1550 |
| C270 | 470 50V | EP31X59 | WBR500-50 | VTT470H50 | QV1-159 | EV-1550 |
| C301 | 10 50V | EP31X35 | PC10-50 | MTV1OCB50 | QV1-45 | EV-1622 |
| C302 | 10 50V | EP31X35 | PC10-50 | MTV1OCB50 | QV1-45 | EV-1622 |
| C403A | 300 175V | ES31X50 # | | | | |
| B | 300 150V | | | | | |

For SAFETY use only equivalent replacement part.

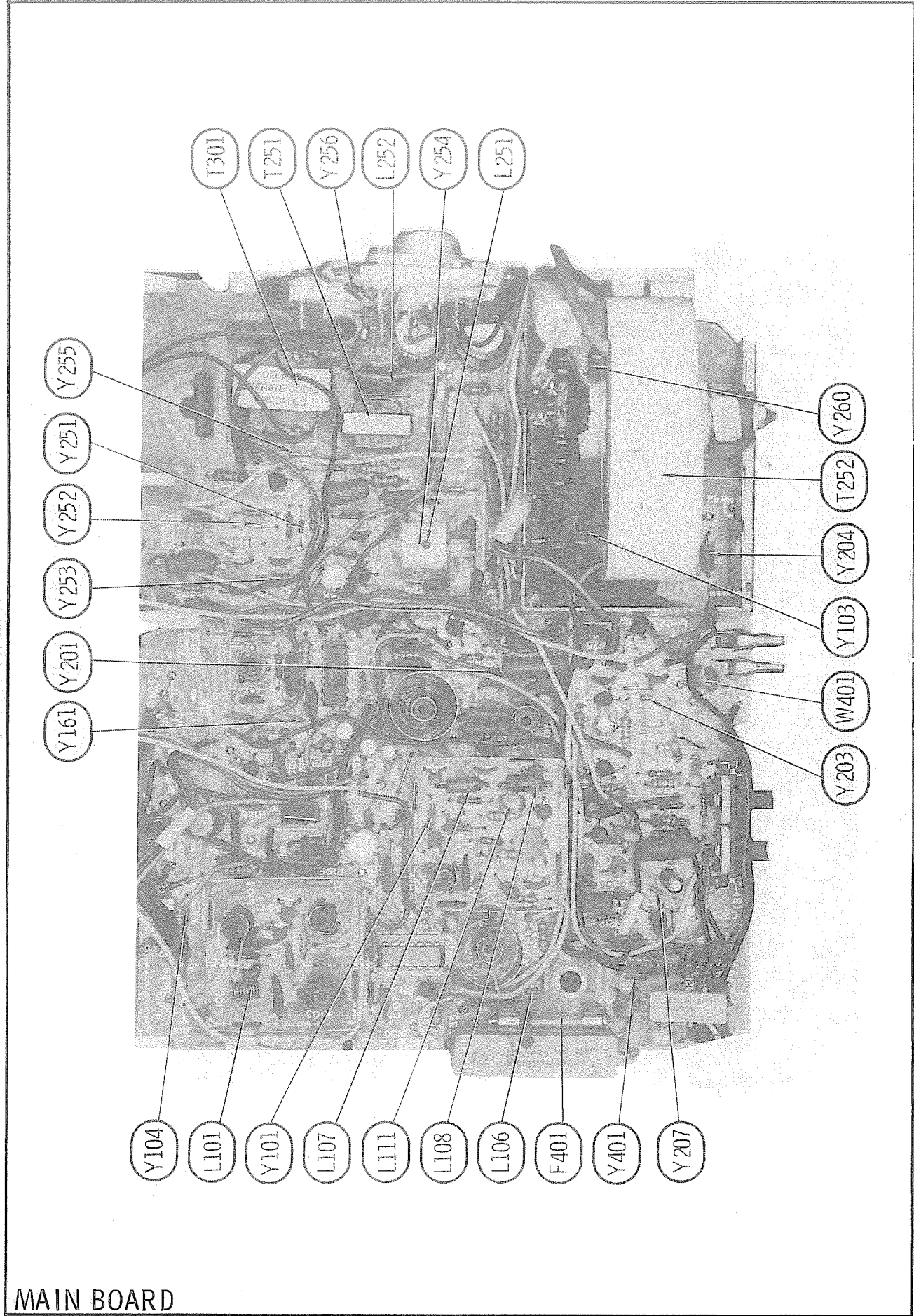
PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state Model, Part Number, and Description.)

Replacement parts shown may be superseded by the availability of newly introduced replacements. Have your local distributor check Sams COUNTER FACTS for the most up-to-date replacement.

CAPACITORS

| ITEM No. | RATING | MFR. PART No. | REPLACEMENT DATA | | | | | | |
|----------|----------------|---------------|--------------------|---------------------------|------------------|------------------|--------------|----------|---------|
| | | | CENTRALAB PART No. | CORNELL-DUBILIER PART No. | MALLORY PART No. | SPRAGUE PART No. | | | |
| | | | | | | Q-LINE | GENERAL LINE | | |
| C101 | 22 NPO 5% | # | DTZ-22 | NP022 | CN0422 | QC2-93 | 10TCC-Q22 | | |
| C102 | 75 NPO 5% | | DTZ-75 | NP075 | CN0475 | | 10TCC-Q75 | | |
| C103 | 68 NPO 5% | | DTZ-68 | NP068 | CN0468 | | 10TCC-Q68 | | |
| C104 | 15 N750 5% | | OTN-15 | N15 | CN7415 | | 10TCU-Q15 | | |
| C105 | 27 NPO 5% | | DTN-15 | N15 | CN0427 | | 10TCC-Q27 | | |
| C106 | 16 N750 5% | | | | CN7415 | | 10TCU-Q15 | | |
| C107 | .05 | | | | MAG5015 | | 10TCC-Q27 | | |
| C108 | .05 | | | | MAG5015 | | | | |
| C112 | .01 | | | | MAG5011 | | | | |
| C113 | .05 | | | | MAG5015 | | | | |
| C114 | 27 NPO 5% | | DO-202 | GP2000 | CN0427 | | 10TCC-Q27 | | |
| C115 | 27 NPO 5% | | | | CN0427 | | 10TCC-Q27 | | |
| C116 | .002 | | | | GP220 | | 5GA-020 | | |
| C117 | 82 N750 5% | | | | CN7482 | | 10TCU-Q82 | | |
| C118 | 15 N750 5% | | | | CN7415 | | 10TCU-Q15 | | |
| C119 | .001 | | DTN-15 | N15 | GP210 | QC2-81 | 5GA-010 | | |
| C120 | 10 | | DO-102G | GP1000 | CN0410 | | 10TCC-Q10 | | |
| C121 | 10 | | DTZ-10 | NP010 | CN0410 | | 10TCC-Q10 | | |
| C122 | 15 N750 5% | | OTN-15 | N15 | CN7415 | | 10TCU-Q15 | | |
| C123 | .001 | | DO-102G | GP1000 | GP210 | | 5GA-D10 | | |
| C124 | .01 | | UK50-103 | C019F0182J03 | MAG5011 | QC2-81 | MNC-182 | | |
| C125 | .0018 100V 10% | | DO-471 | | SX218 | | 10TS-T47 | | |
| C126 | 470 10% | | | | GP347 | | MNC-182 | | |
| C127 | .0018 100V 10% | | | | C019F0182J03 | | 10TS-010 | | |
| C130 | .001 10% | | DO-102 | | SX218 | | 10TS-022 | | |
| C131 | .0022 10% | | DO30-471 | HV3-470 | GP210 | | 30GA-T47 | | |
| C133 | 470 1.4KV | | | | GP222 | | 10TS-T56 | | |
| C135 | 560 10% | | | | 3HV347 | | 10TS-T82 | | |
| C136 | 820 10% | | | | GP356 | | 4PB-P10 | | |
| C138 | .1 400V | | | | GP382 | | EW4010 | 10TS-T82 | |
| C140 | .05 1KV | | # | DO-821 | GP820 | GP382 | QC2-81 | 10TS-T82 | |
| C141 | .05 1KV | | | | | GP820 | | MAG5011 | |
| C161 | .01 | | | UK50-103 | | MAG5011 | | QC2-81 | 5GA-D10 |
| C162 | .01 | | | UK50-103 | | GP210 | | | |
| C200 | .001 | | | UK50-103 | | GP1000 | | | |
| C201 | .01 | | | UK50-103 | OPMS2P22 | MAG5011 | 1PB-P22 | | |
| C202 | .22 100V 10% | | | UK50-503 | UK50-503 | MAG5011 | QC2-81 | QC2-81 | |
| C203 | .05 | | | | | MAG5015 | | | |
| C204 | .01 | | | | | MAG5011 | | | |
| C205 | .1 10% | | | | | WMF05P1 | | | |
| C206 | .27 10% | ENF05027 | | | | | | | |
| C208 | .001 | DO-102G | | GP1000 | GP210 | QC2-81 | | | |
| C214 | 820 | DO-821 | | | GP382 | | | | |
| C215 | 820 | DO-821 | | | GP382 | | | | |
| C216 | 820 | DO-821 | | | GP382 | | | | |
| C251 | 100 5% | DO-821 | | | C015F0101J03 | QC2-81 | | | |
| C252 | .1 10% | | | | WMF05P1 | | | | |
| C253 | 75 NPO 5% | | | | ENF05010 | | | | |
| C254 | .0082 10% | | | | CN0475 | | | | |
| C255 | .0022 10% | DTZ-75 | | OPMS6082 | PVC6282 | | QC2-81 | | |
| C256 | .0033 10% | # | | | GP222 | | | | |
| C257 | .0033 10% | | | | M192P3329R8 | | | | |
| C259 | .02 5% | | | | M192P3329R8 | | | | |
| C260 | .1 200V | | | | SXM120 | | | | |
| C261 | 820 10% | DO-821 | DPMS2P1 | EW42010 | QC2-81 | | | | |
| C263 | .0035 1.2KV 5% | | | GP382 | | | | | |
| C265 | .22 400V 10% | | | GP382 | | | | | |
| C266 | 16 NPO 5% | | | GP382 | | | | | |
| C268 | 820 10% | DTZ-15 | NP015 | CN0415 | QC2-81 | | | | |
| C272 | 820 10% | GP820 | | GP382 | | | | | |
| C273 | 820 10% | DO-821 | | GP382 | | | | | |
| C300 | .05 | DO-821 | | GP382 | | | | | |
| C303 | .02 | UK50-503 | | MAG5015 | | | | | |
| C304 | .02 | UK50-223 | MAG5012 | QC2-81 | | | | | |
| C305 | 15 NPO 5% | UK50-223 | MAG5012 | | | | | | |
| C306 | 200 5% | DTZ-15 | CN0415 | | | | | | |
| C308 | .05 | CN0415 | C015F0201J03 | | | | | | |
| C309 | .01 | SX320 | MAG5015 | | | | | | |
| C310 | 47 10% | GP10000 | GP110 | | 5GA-S10 | | | | |
| C313 | 220 10% | NP047 | CN0447 | | 10TCC-Q47 | | | | |
| | | C015FD221J03 | SX322 | | MWA-221 | | | | |
| | | | | | | | | | |
| C314 | 47 10% | DO-30-102 | NP047 | CN0447 | QC2-81 | | | | |
| C402 | .001 1.4KV | | | 2HV210 | | | | | |
| | | | | GP382 | | | | | |
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| | | DTZ-15 | NP015 | CN0415 | QC2-81 | | | | |
| | | DO-821 | | GP382 | | | | | |
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SAFETY PRECAUTIONS

CAUTION – X-RAYS

AS PRECAUTIONS AGAINST EMISSION OF X-RAYS IN EXCESS OF THE FEDERAL STANDARD, NEVER APPLY POWER TO THE RECEIVER UNTIL THE FOLLOWING CONDITIONS HAVE BEEN VERIFIED:

1. THE LINE INPUT VOLTAGE DOES NOT EXCEED 128 VOLTS AC.

2. THE PICTURE TUBE IS THE FACTORY SPECIFIED TYPE ONLY.

FOR CONTINUED PROTECTION AGAINST X-RAYS, REPLACE R401, R402, AND C263 WITH THE EXACT CATALOGED REPLACEMENT PARTS ONLY.

THE CHASSIS OF THIS RECEIVER IS CONNECTED TO ONE SIDE OF THE A.C. LINE. USE AN ISOLATION TRANSFORMER TO POWER THE RECEIVER WHILE PERFORMING SERVICE.

THE RECEIVER IS EQUIPPED WITH A POLARIZED POWER CORD TO INSURE THAT THE CHASSIS IS ALWAYS CONNECTED TO THE GROUNDED SIDE OF THE A.C. LINE. DEFEATING THIS SAFETY DEVICE MAY CREATE A POTENTIAL HAZARD TO THE SERVICER AND THE USER.

SHATTER-PROOF SAFETY GLASSES SHOULD ALWAYS BE WORN WHEN WORKING AROUND AN EXPOSED PICTURE TUBE. BEFORE HANDLING THE TUBE, THOROUGHLY DISCHARGE THE SECOND ANODE TO THE OUTER AQUADAG COATING OF THE PICTURE TUBE.

IF THE RECEIVER BECOMES DAMAGED OR HAS TO BE DISASSEMBLED FOR ANY SERVICE (EVEN THE REMOVAL OF ONLY THE CABINET BACK) A SAFETY RESISTANCE TEST SHOULD BE PERFORMED.

- SAFETY TEST
1. INSPECT LEAD DRESS:

a. Wires should not be pinched by chassis, should not touch any power resistors.

b. Connections to the high voltage transformer, deflection yoke, damper diode (Y256), and damper capacitor (C263) should be securely soldered and have no sharp points.

c. The antenna leads should be securely soldered. The leads should not be dressed close to any high voltage point or AC line connection. The insulation to the antenna leads should not be damaged.

d. The AC wiring should be inspected for damaged insulation, frayed wires, pinched leads, and cold solder connections.

e. Inspect the AC line cord for damaged insulation.

2. WITH THE ON–OFF SWITCH IN THE OFF POSITION, CHECK FOR DC CONTINUITY (0 OHMS) FROM THE LARGE PIN ON THE POWER INTERLOCK TO CHASSIS GROUND.

3. REASSEMBLE THE RECEIVER COMPLETELY WITH THE VHF RETRACTABLE ANTENNA CONNECTED TO THE VHF ANTENNA TERMINALS.

4. DO NOT PLUG THE RECEIVER INTO A POWER OUTLET. CONNECT BOTH BLADES OF THE POWER PLUG TOGETHER AND PLACE THE ON–OFF SWITCH IN THE ON–POSITION.

5. MEASURE BETWEEN THE SHORTED POWER PLUG AND THE FOLLOWING POINTS. READING SHOULD BE AS INDICATED.

| TEST POINT | MIN. OHMS | MAX. OHMS |
|--|--------------|-----------|
| ANTENNA TERMINALS–UHF | 600K | 5.2 MEGS |
| ANTENNA TERMINALS–VHF | 600K | 5.2 MEGS |
| CABINET BACK SCREWS | OPEN CIRCUIT | |
| ALL METAL CONTROL OR CHANNEL SELECTOR SHAFTS (WITH KNOBS REMOVED) | OPEN CIRCUIT | |
| ALL NON-REMOVABLE METALLIC KNOBS, PUSH BUTTONS, EARPHONE JACKS, ETC. | OPEN CIRCUIT | |
| METAL ESCUTCHEONS AND OVERLAYS | OPEN CIRCUIT | |
| METAL HANDLES | OPEN CIRCUIT | |

IF ANY READING IS OUTSIDE LIMITS SPECIFIED, THE CAUSE SHOULD BE IDENTIFIED AND CORRECTED BEFORE OPERATING THE RECEIVER.

Courtesy of the Manufacturer

GENERAL ELECTRIC
CHASSIS 19XA-2

FOLDER 1

TV ALIGNMENT INSTRUCTIONS

Use an isolation transformer, or observe polarity, and maintain line voltage at 120VAC. Allow a 20-minute warm-up period for receiver and test equipment.
Suggested Alignment Tools: GC ELECTRONICS

L102, L103, L104, L105, L109, T300 8606, 8606L, 8869
L301, T101, Tuner IF Output 9296, 9297, 9300

PRELIMINARY INSTRUCTIONS

Set the channel selector to the highest unused channel. Set scope sweep to external. Connect scope vertical input to scope vertical input on sweep/marker generator. Connect scope external horizontal input to scope horizontal input on sweep/marker generator. Ground test equipment to TV chassis unless specified otherwise. Use only enough generator output to provide a usable indication.
Note: Response may vary slightly from that shown.
Turn Volume, Contrast, and RF AGC Controls fully counterclockwise.
Connect Base of Q161 to ground.
Connect a +7 Volt bias to TP11.

VIDEO IF ALIGNMENT

| DIRECT PROBE FROM SWEEP/MARKER GENERATOR | SWEEP GENERATOR OUTPUT | SWEEP GENERATOR FREQUENCY | MARKER GENERATOR FREQUENCY | REMARKS |
|--|------------------------|---------------------------|--|--|
| To TP111 | TP on VHF tuner. | 44MHz (10MHz Sweep) | 41.25MHz 47.25MHz | Adjust L102 for MINIMUM. Adjust L103 for MINIMUM. See Figure 1 |
| " | " | " | 41.25MHz 42.17MHz 44.00MHz 45.17MHz 47.25MHz | Adjust T101 (Top and Bot), L104, L105 and Tuner IF Output Coil for maximum gain and symmetry of response. T101 (Top and Bot) and L104 affects 44.00MHz. L105 affects 45.75MHz. Tuner IF Output affects overall response. See Figure 2. |

4.5MHz TRAP ALIGNMENT

Tune in a strong TV signal and set the contrast at maximum. Adjust the fine tuning until a beat pattern is visible on the screen. Adjust L109 for MINIMUM beat interference.

SOUND IF ALIGNMENT

Tune in a station and adjust T300 for maximum sound. Reduce signal strength at the antenna terminals until distortion appears. Continue to reduce the signal while aligning for undistorted output by adjusting L301.

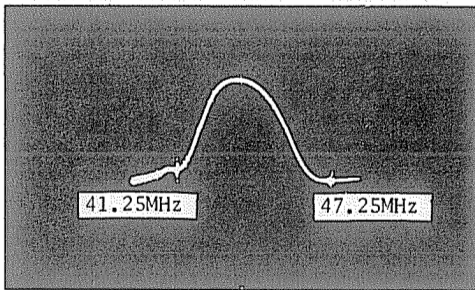


Fig. 1

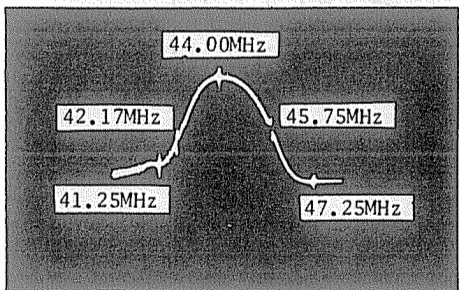
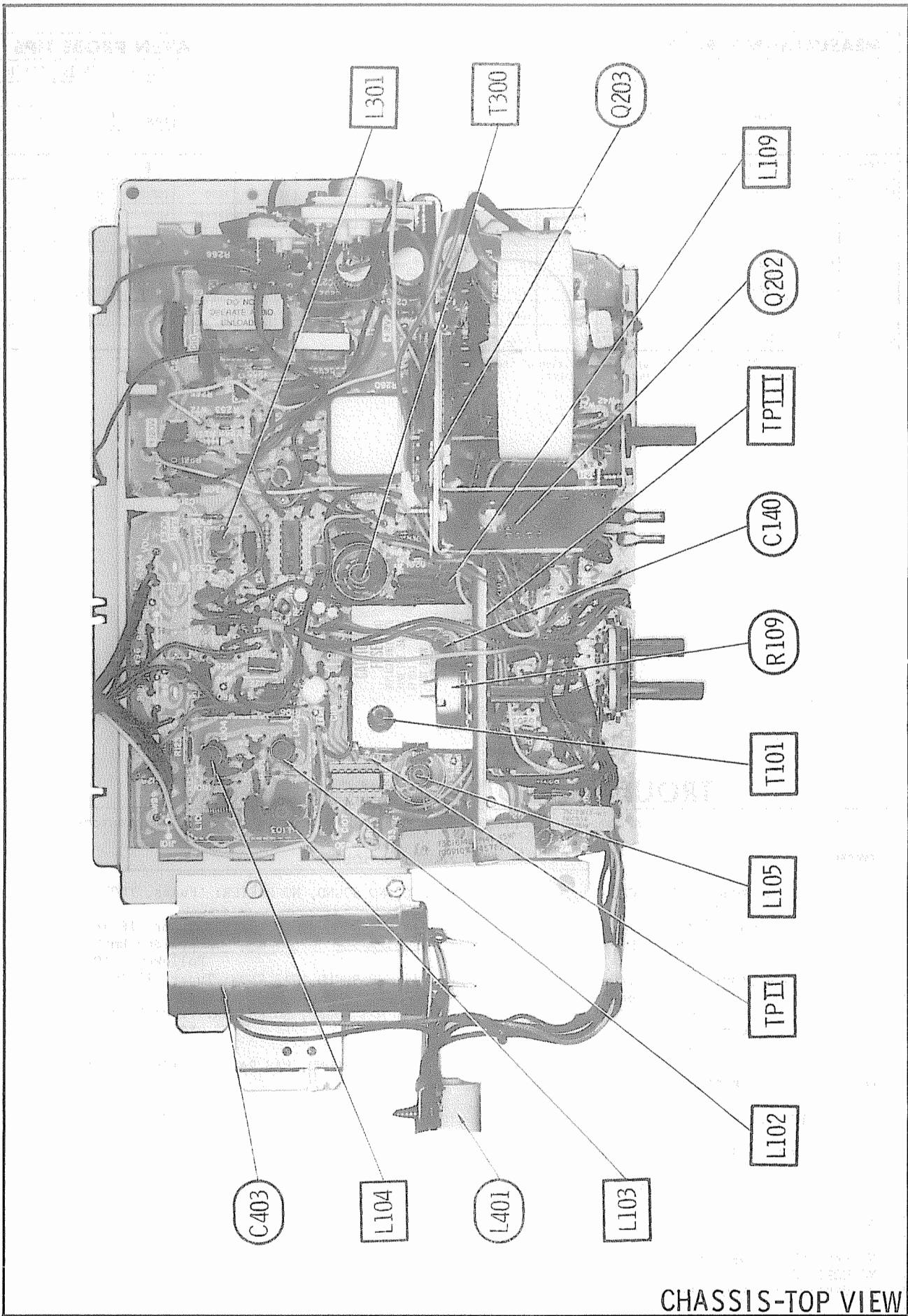


Fig. 2



CHASSIS-TOP VIEW

GENERAL ELECTRIC
CHASSIS 19XA-2

FOLDER 1